

REMARKS

Claims 1 and 3 - 7 are currently in the application. In the current Office Action, the Examiner has objected to the previously submitted FIG. 1. Although the corrections appear to be correct, they were not to be shown as a "replacement" drawing sheet. Although the Examiner had requested that FIG. 1 be submitted as formal "replacement" sheet in response to the current Office Action, Applicants respectfully request that this requirement be held in abeyance until one or more claims of the patent application are deemed allowable by the Examiner. If this is not possible, Applicants respectfully request correspondence or a telephone call from the Examiner, and a clean replacement sheet of FIG. 1 will immediately be submitted to the Examiner.

The Examiner objected to claims 1 and 5, based on certain informalities. In this Response, Applicants have amended claims 1 and 5, so as to overcome the Examiner's objections and to correct the informalities. Accordingly, Applicants respectfully request withdrawal of these objections.

Applicants respectfully traverse the rejection of claims 1 and 3 - 6 under 35 U.S.C. §103(a) as being unpatentable over Kawai, U.S. Patent No. 3,939,899 in view of Kodama, Japanese Patent 63-278634.

Applicants respectfully traverse the alleged combination of Kawai and Kodama.

As described by the Examiner, Kawai disclosed a shell molding machine with a method of casting and curing sand cores. Applicants believe that prior correspondence during prosecution of the current patent application sufficiently disclosed Kawai, so that a detailed description of the Kawai disclosure will not be repeated herein. Further, the Examiner states the

Kawai does not specifically disclose use of a vacuum manifold in the Kawai shell molding machine. However, the Examiner considers Kodama to disclose the use of a vacuum manifold.

Applicants respectfully submit that Kawai does not teach nor suggest, in any manner, the use of a vacuum manifold in combination with other components of the shell molding machine disclosed in Kawai. In fact, Applicants do not believe that the Kawai molding machine components, as disclosed in their entirety in the Kawai patent specification, in any manner lend themselves to the capability of using a vacuum manifold for purposes of removing excess sand from the core cavity and returning the same to the sand hopper. For these reasons, Applicants respectfully submit that Kodama cannot be tenably combined with Kawai.

Assuming, arguendo, Kawai and Kodama can be tenably combined, Applicants respectfully submit that the alleged combination still does not teach or suggest Applicants' invention as defined in claim 1. As stated by the Examiner, the alleged combination would appear to encompass the addition of a vacuum pump and manifold, for recovering molding sand after a "shaking out" process. In contrast, Applicants utilize the vacuum manifold for purposes of not only returning unused vacuumed sand to the sand hopper for use in the next cycle, but also for removing the excess sand from a core cavity of the core box. Accordingly, Applicants do not believe that any type of "shaking out" process is necessary, and the recovery of the molding sand, in accordance with Applicants' invention, utilizes a vacuum manifold in its entirety.

Each of claims 3 - 6, as amended, is directly or indirectly dependent from claim 1 and incorporates all limitations thereof. For the reasons previously set forth herein that claim 1 as amended is patentable over the alleged combination of Kawai and Kodama, Applicants respectfully submit that each of dependent claims 3 - 6 is also patentable over the alleged combination.

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In view of the foregoing remarks and amendments, Applicants respectfully submit that claims 1 and 3 - 6 are now in condition for allowance, and early notification of allowability is respectfully requested.

Should any questions arise in connection with the foregoing please contact Thomas L. Lockhart at the telephone number of (616) 336-6000.

Respectfully submitted,

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